REMARKS

Claims 1-28 are pending. Of these, claims 1, 6-8, 13, 15, 20 and 24 are written in independent format.

CLAIM OBJECTIONS

On page 2 of the Office Action, claim 9 is objected to because he believes that the recitation of "the help driver" in line 4 lacks antecedent basis. Applicant disagrees.

In line 3, claim 9 recites "an AddDevice routine of <u>a helper driver</u>" (<u>underlined</u> emphasis added) which provides the requisite antecedent basis. Accordingly, withdrawal of the rejection is requested.

§ 102 REJECTION – '988 PUB.

Beginning on page 2 of the Office Action, claim 6 stands rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Pre-Grant Publication ("PGPub") No. 2004/0230988 to Stokes et al. ("the Stokes '988 PGPub"). This rejection is traversed.

The Stokes '988 PGPub is directed to the WINDOWS driver model (WDM), which is a driver technology developed by the MICROSOFT Corporation that supports drivers which are compatible with WINDOWS 98, 2000, ME, XP and WINDOWS SERVER 2003. More particularly, the object of the Stokes '988 PGPub is to retain existing driver control capability (as implemented via driver 3) vis-à-vis an existing & corresponding audio device 5 <u>while adding</u> new driver control capability (via a new driver 7) and a corresponding new audio device 9; see Paragraph Number ("PGH") 40.

To achieve this object, the Stokes '988 PGPub teaches adding another new driver 6 between (A) an existing driver 3 & new driver 7 and (B) the WINDOWS operating system (OS) 1; see PGHs 34 & 40. The skilled artisan would have understood drivers 3

and 7 as being uni-role drivers, and driver 6 as being a multi-role driver.[1] The skilled artisan also would have understood that multi-role driver 6 is invoked by WINDOWS OS 1.

A distinction over the Stokes '988 PGPub of independent claim 6 is invoking a uni-role first driver, and passing a PDO (physical device object) from the first driver to a multi-role second driver or to a component of the kernel. In the Stokes '988 PGPub, WINDOWS OS 1 invokes multi-role driver 6, and multi-role driver 6 passes a PDO to either uni-role driver 3 or uni-role driver 7.

By failing to disclose each element of the rejected claims, the Stokes '988 PGPub cannot be regarded as anticipatory. Hence, the §102(e) rejection is improper and its withdrawal is requested.

§ 103 REJECTION: ARA + STOKES '988 PGPUB

Beginning on page 3 of the Office Action, claims 1-5, 7-14, 20-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Admitted Related Art ("ARA")[2] in view of the Stokes '988 PGPub. This rejection is traversed.

CLAIM 1

Regarding claim 1, the Examiner acknowledges that the ARA does not teach registering a plurality of helper drivers, but he believes that such a help driver is taught by the Stokes '988 PGPub, and further believes that the skilled artisan would have been motivated to modify the ARA according to the Stokes '988 PGPub. Applicant disagrees.

It will be assumed for the sake of discussion that some portion of the ARA would have been modified according to some portion of the Stokes '988 PGPub resulting in the

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[1] Multi-role driver 6 is an example of the multi-role drivers described in PGH 4 of the section of the present specification entitled "Background of the Invention."

[2] Applicant infers that the Examiner is referring to art that is described in the section of the present specification entitled "Background of the Invention" when the Examiner refers to the AAPA. Applicant will refer to the art described in this section as "Admitted Related Art" (ARA). The Examiner has characterized the ARA as "Admitted Prior Art." Applicant does not necessarily agree to this characterization but will assume for the sake of discussion that the ARA is available for use in a rejection.

"Combination" asserted by the Examiner. It also will be assumed for the sake of discussion that driver 6 of the Stokes '988 PGPub is a helper driver.

As explained in the traversal regarding the rejection of claim 1, the driver 6 taught by the Stokes '988 PGPub is a multi-role driver, not a uni-role driver.

A distinction over the Stokes '988 PGPub (and thus over its combination with the ARA) of claim 1 is registering a plurality of <u>uni-role</u> helper drivers. Again, the Stokes '988 PGPub teaches a multi-role helper driver 6.

Independent claims 20 and 24 recite features similar to the distinction of claim 1 explained above, respectively, and thus distinguish at least similarly over the Combination (again, the ARA in view of the Stokes '988 PGPub as asserted by the Examiner). Claims 2-5, 21-23 and 25-28 depend from claims 1, 20 and 24, respectively, and thus at least similarly distinguish over the Combination.

CLAIM 7

Regarding claim 7, the skilled artisan would have known that, at initialization (in the WINDOWS environment according to the WDM), the plug-and-play (PnP) manager orchestrates the assembly of (also known as adding drivers to) a stack of drivers that together handle the I/O for a device by successively invoking drivers registered (in the registry of the host) to the type of device.[3] In turn, each driver successively creates then attaches a DO to the top of the stack.[4]

Multi-role driver 6 is an example of the multi-role drivers described in PGH 4 of the present specification. As such, multi-role driver 6 creates and attaches a DO to the top of the corresponding stack.

A distinction over the Stokes '988 PGPub (and thus over its combination with the ARA) of independent claim 7 is passing the PDO away from the driver without attempting to attach to the stack a DO corresponding to the driver. As explained

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[3] See PGH 2 of the section of the present specification entitled "Background of the Invention."
[4] Id.

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above, multi-role driver 6 of the Stokes '988 PGPub would have attached (and thus would also have attempted) to attach a DO to the top of the corresponding stack.

CLAIM 8

Regarding claim 8, the skilled artisan would have known that multi-role driver 6 of the Stokes '988 PGPub would have included role-discovery code,[5] such as role-discovery code 110 in present Background Art FIG 1, and role-specific DOPush functions,[6] such as role-specific DOPush functions 112-118 in the present Background Art FIG 1. In other words, the roll-discovery code and the role-specific DOPush functions are internal to multi-role driver 6. When WINDOWS OS 1 invokes multi-role driver 6, it would thereby invoke an AddDevice routine (such as AddDevice routine 106) within multi-role driver 6.[7] Invoking the AddDevice routine includes passing to it a physical device object (PDO) (e.g., A (item 108), as indicated by the arrow 120).[8]

The role-discovery code reacts to receiving a PDO by examining the characteristics of the PDO and (optionally) the extent of the stack.[9] The result of the examination is that the roll-discovery code determines the role for which the AddDevice routine is being invoked,[10] and accordingly invokes the corresponding role-specific DOPush function[11] (such as role-specific DOPush functions 112, 114, 116 or 118), which includes internally passing the PDO to the DOPush function.[12]

A distinction over the Stokes '988 PGPub (and thus over its combination with the ARA) of independent claim 8 is invoking, externally to the multi-role driver, one of the DOPush functions. As explained above, any DOPush function that multi-role driver 6

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[5] See PGH 5 of the present specification.
[6] See PGH 7 of the present specification.
[7] See PGH 5 of the present specification.
[8] Id.
[9] See PGH 8 of the present specification.
[10] See PGH 9 of the present specification.
[11] Id.
[12] Id.

would invoke is _internal_ thereto. Hence, multi-role driver 6 _internally_ invokes DOPush functions.

Claims 9-12 depend from claim 8, respectively, and thus at least similarly distinguish over the Combination.

CLAIM 13

Regarding claim 13, the skilled artisan would have known that multi-role driver 6 of the Stokes '988 PGPub would have been registered in the registry of WINDOWS OS 1.

A distinction over the Stokes '988 PGPub (and thus over its combination with the ARA) of independent claim 13 is not registering, in the registry of the operating system, the multi-role driver as having a role in assembly of the stack. As explained above, the skilled artisan would have understood that multi-role driver 6 is registered.

Claim 14 depends from claim 8, and thus at least similarly distinguishes over the Combination.

By failing to disclose each element of the rejected claims, the combination of the ARA and the Stokes '988 PGPub cannot be regarded as a proper basis for an obviousness rationale. Hence, the §103(a) rejection is improper and its withdrawal is requested.

§ 103 REJECTION: STOKES '988 PGPUB + ARA

Beginning on page 10 of the Office Action, claims 15-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Stokes '988 PGPub in view of the ARA)[13]. This rejection is traversed.

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[13] Applicant infers that the Examiner is referring to art that is described in the section of the present specification entitled "Background of the Invention" when the Examiner refers to the AAPA. Applicant will refer to the art described in this section as "Admitted Related Art" (ARA). The Examiner has characterized the ARA as "Admitted Prior Art." Applicant does not necessarily agree to this characterization but will assume for the sake of discussion that the ARA is available for use in a rejection.

It will be assumed for the sake of discussion that some portion of the ARA would have been modified according to some portion of the Stokes '988 PGPub resulting in the "Combination" asserted by the Examiner. It also will be assumed for the sake of discussion that driver 6 of the Stokes '988 PGPub is a helper driver.

As explained in the traversal regarding the rejection of claim 1, the driver 6 taught by the Stokes '988 PGPub is a multi-role driver, not a uni-role driver. As explained in the traversal regarding the rejection of claim 8, multi-role driver 6 of the Stokes '988 PGPub includes role-discovery code and role-specific DOPush functions. Assuming for the sake of discussion that each DOPush function (internal to multi-role driver 6) is uniquely mapped to the roles related to audio hardware devices 5 and 9, multi-role driver 6 itself does not map uniquely to a role.

A distinction over the Stokes '988 PGPub (and over the ARA as well) of independent claim 15 is an installer code portion for registering the plurality of helper driver code portions so as to uniquely map to the multiple roles, respectively. Again, multi-role driver 6 as taught by the Stokes '988 PGPub does not itself map uniquely to a role.

Claims 16-19 depend at least indirectly from claim 15, respectively, and thus at least similarly distinguish over the combination of the Stokes '988 PGPub in view of the ARA.

By failing to disclose each element of the rejected claims, the combination of the Stokes '988 PGPub and the ARA cannot be regarded as a proper basis for an obviousness rationale. Hence, the §103(a) rejection is improper and its withdrawal is requested.

CONCLUSION

The issues raised in the Office Action are considered to be resolved. Accordingly, Applicant again requests a Notice of Allowance.
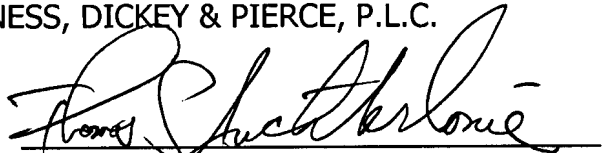
If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge any underpayment or non-payment of any fees required under 37 C.F.R. §§ 1.16 or 1.17, or credit any overpayment of such fees, to Deposit Account No. 08-0750, including, in particular, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY & PIERCE, P.L.C.

By: _____

Thomas S. Auchterlonie, Reg. No. 37,275
P.O. Box 8910
Reston, VA 20195
TSA/cm:tsa   (703) 668-8000

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